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An

Inaugural Dissertation

on

Cantharides

By

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A Dissertation On Cantharides

The natural history appearance & habitudes of these insects, and the manner of preparing them for medical use, with their application and utility in diseases, will constitute the subject of this Essay.

They are an insect of the beetle kind of the genus Cantharis, having a longish body with a lively tinge of blue and green, interspersed with a golden hue and are found in Spain Italy, France and most of the other countries of Europe, in large swarms, destroying the foliage of different kinds of trees, from which they are shaken into cloths, & then immersed or exposed to the fumes of vinegar, and carefully dried either in the sun, or a stove. There are several

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species of them, but the one held in the highest esteem, is the Meloe Vesicatorius or Lytta vesicatoria, though the others are not inert, especially the species found in this country, the Cantharis Vittata or Lytta Vittata, or potato fly, being chiefly found on that vegetable. It is an insect of the same configuration as the above described but smaller and of a different colour consisting of red black & yellow variously distributed, but possessing the same properties & applicable to the same diseases.

From the analysis hitherto made of cantharides, they appear to consist of alcoholic and watery extract, free acetic acid, phosphate of magnesia, a reddish yellow oil soluble in alcohol, uric acid, and a peculiar crystalline substance soluble in warm alcohol but separating when cold, and insoluble in water. It may be procured according to Dr Thomson in the following manner;

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Boil them in water, till every thing soluble in that liquid is taken up, concentrate the solution by evaporation to the consistence of a thick syrup; then boil it repeatedly in alcohol, till it ceases to act on it; evaporate gently the alcoholic solution to dryness, and put the dry residue in a phial with sulphuric Ether; agitate the mixture, till the Ether acts upon it; when it assumes a yellow colour. Decant it off and let it evaporate in the open air, It deposits in small crystalline plates mixed with a yellow matter. This yellow matter is taken up by alcohol, which leaves the crystalline plates. These plates are dried between blotting paper & is the substance which Dr Thomson calls cantharidin, but agreeably to professor Coxe cantharin would be more proper. The substance thus obtained is in small shining plates, insoluble in water & cold alcohol, but Ether & warm alcohol dissolves it; but the last

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on cooling parts with it. Oils act on it very readily. It vesicates with great energy & appears to constitute the active principle of the fly. Having thus detailed in a summary manner, the history, analysis &c of Cantharides I proceed to the consideration of their sensible properties, & effects upon the system, their modus operandi, & use in the management of diseases. They have a peculiar nauseous smell, and a very acrid burning taste. Taken internally, they often cause haematuria, attended with very great pain, & in more considerable doses inflame & ulcerate the intestinal canal; Mucous & purulent discharges ~~often~~ take place; the breath is fœtid & cadaverous; intense pain in the abdomen followed by syncope, giddiness, delirium & finally death.

Applied to the surface, they inflame & afterwards vesicate the parts, pro-

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accident, contagion, or not; but how
that poisoning is imparted to the system, whether
by contact, through the medium of
circulation, is not as yet determined. But on a
medical view of the subject, it is not so impor-
tant, to know the manner, than to know the
fact, and to keep steadily in view the phenom-
ena. This is laid down as a general law, that
contagion, or the poison, impressing
a susceptible medium, may be removed
and destroyed, though the effects produced
by it cannot be removed. Hence the necessity
of detecting the poison, to be able to collect
the matter under circumstances favorable
to its destruction, and discriminating its effects
upon the system, and its agency in
the production of disease, by careful observation of past and collected facts,
aided by the experience of others.

But, according to the application
of a dissecting, it is necessary

to pursue everything of the rules laid down
for the entertainment, [illegible]

[illegible]

[illegible] substitutes which will [illegible]

query, the [illegible]

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[illegible] be produced by V.S. and the other means of depletion, or they aggravate, rather than remove the [illegible] Blistering, when applied in the very advanced stages of disease, from the [illegible] tension & feebleness of action do not draw, or else very imperfectly, when applied to the extreme parts of the body. It is therefore in such cases best to put them on the back &c. In adjusting [illegible] careful to secure a free [illegible] & adhesive strength & in low states of the system if its drawing is doubtful, position

with turpentine, or a decoction, may be applied. The dressings must be applied [illegible] on linen or wetted cabbage leaves; & to keep it open, flame or other stimulating ointment.

Having [illegible] thus [illegible] my, [illegible] I shall now proceed to consider them in their mutual relations, [illegible] something [illegible] left upon many instances, without this we [illegible] terminate the life of the unhappy sufferer! Beginning with the fetal disease, [illegible] I find there are many in life [illegible] to terminate from first [illegible] (though the remedy in this course is not generally employed), yet there are cases in which no doubt exists as to its utility.

As a [illegible] of the paroxysm, [illegible] that the suffocation may be felt at the moment of accession, or have commence at-

[illegible]

[illegible] the circumstance of its being applied in two different stages of inflammation, the early & more advanced, [illegible] according to [illegible] the mean [illegible] may be more [illegible] than [illegible] effective in the two stages; in the first [illegible] doing harm while there is much arterial action & [illegible] in [illegible] advanced state of the system, The fever under consideration is generally a bilious inflammatory [illegible] except in [illegible] form of typhus. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] cases, [illegible] [illegible] systems, [illegible]

or has assumed the typhoid form. Taught
[illegible] the nature of yellow fever, as revealed
by [illegible] of the dyspepsia, that is
a highly gastric affection, our remedy is resorted
to earlier & with much advantage, & is recom-
mended to be applied to the region of the
stomach. Believing, from practice, from the
pathology, we are directed in typhus fever
which is considered as a cerebral affection, in
conjunction with other means of obviating con-
gestion & inflammation in that organ, to apply
a blister to the whole cranium. That would be
[illegible] result of their application to the spine as
has been proposed, appears not to have been de-
cided by experiment. In the spine, in con-
junction with the brain & cutaneous [illegible]
meal economy, there is reason to think, they might
[illegible] great advantage.

[illegible] very truly considered [illegible]
fevers. The application of them to the order

[illegible]

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[illegible] then applied after general & topical bleeding though they [illegible] in [illegible] we [illegible] [illegible] most decidedly them, more especially when the suppuration is induced. Their application to the part in [illegible] [illegible] [illegible] & [illegible], [illegible] the inflammation [illegible]. but we are taught the contrary, it has even been alledged that they [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]; by [illegible] [illegible] the [illegible] of the [illegible] [illegible] & [illegible] ~~them~~ at [illegible] the [illegible] [illegible] them to the [illegible] [illegible] commence [illegible] [illegible] to apply [illegible] the seat of the complaint. In inflammations & congestions of the brain they are particularly indicated especially in [illegible]

they [illegible] [illegible] powers, [illegible] applying the same may be advanced. Though there is some diversity of opinion as respects the part to which they are to be applied, [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] same the same [illegible] in [illegible] the effect [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] with the heat, the disease [illegible] [illegible] be [illegible] [illegible]; but [illegible] [illegible] [illegible] [illegible] in other situations on the back of the [illegible] they [illegible] [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] preventing [illegible] when suppuration is [illegible] [illegible] [illegible] and in local inflammatory affections, particularly [illegible] [illegible] [illegible] by [illegible] [illegible] [illegible] [illegible] [illegible] invaluable remedy [illegible] [illegible] inflammary swellings. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] malignant [illegible] by blisters, which is attended [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

Professor Physick to the management of Gangrene with almost complete success. [illegible] [illegible] in [illegible] of the diseases, the [illegible] [illegible] [illegible] [illegible] of the [illegible] [illegible] the one which most forcibly striking the attention is Dysentery, though the propriety of thus locating it, is questioned especially when it assumes the inflammatory type. It has been placed in the order phlegmasiæ [illegible] [illegible] [illegible] [illegible] the blisters [illegible] with manifest advantage, after the [illegible] remedies for [illegible] [illegible] [illegible] [illegible] [illegible] when applied to the abdomen. They are also [illegible] in Cholera Morbus when applied to the stomach to check vomiting, & in exhausted state of the system to the extremities. Diarrhea [illegible] [illegible] attended is well managed by blisters being [illegible] applied to the [illegible] [illegible] [illegible] [illegible] [illegible]

had [illegible]

matory action exists joining them with other means of reducing vascular excitement; but in the desquamation stage they are considered negatory if not mischievous. Their efficacy in Hydrothorax is still better established, it being generally of an inflammatory nature, so ascites & anasarca there is some evidence of their utility but their general employment is considered hazardous, frequently in the latter case inducing gangrene.

Having in a cursory manner considered their application & utility as vesicatories in a variety of diseases to which humanity is subject, I shall in concluding this enquiry briefly notice their internal administration in a few diseases in which they are thought serviceable. In Dentipis & dropsy of low action they are principally used. In the former they are given till strangury is induced at which juncture the complaint generally gives way; also in incontinence of urine they have been recommended. They are exhibited

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either in substance or tincture, the dose of the former being from 1 to 2 or 3 grains. & of the latter from 20 to 30 drops.

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